REMARKS

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

I. EXAMINER INTERVIEW, CLAIM STATUS & AMENDMENTS

Applicants thank Examiner Burkhart for the telephone conferences to discuss this application.

Claims 1-20 were pending in this application when last examined and stand rejected. Applicants thank Examiner Burkhart for rejoining and examining together all of the claims in this application.

Editorial changes have been made throughout the claims to better conform to US practice and English grammar form. Such changes are non-substantive and do not narrow the scope of protection. Support for these changes can be found in the claims as originally filed.

Support for the amendments to claim 1 can be found in the disclosure, for example, at page 3, lines 14-23, page 4, lines 7-10, and original claim 1.

Support for the amendments to claim 2 can be found in the disclosure, for example, at page 3, line 24 to page 4, line 2, and original claim 2.

Support for the amendments to claims 3 and 4 can be found in original claims 3 and 4.

Amended claim 9 corresponds to pending claim 9 and 17. Further support for amended claims 9 and 10 can be found in the disclosure, for example, at page 4, line 21 to page 5, line 3, and original claims 9 and 10.

Support for the amendments to claims 11-14 can be found in original claims 11-14.

Claims 6, 8, and 15-20 have been cancelled without prejudice or disclaimer thereto. Applicants reserve the right to file a continuation or divisional application on any canceled subject matter.

New claims 21-26 have been added.

New claim 21 corresponds to claims 15 and 19. Support for new claims 21-26 can be found in the disclosure, for example, at page 4, lines 15-20, and original claims 15 and 19.

No new matter has been added by the above amendments to the claims.

Claims 1-5, 7, 9-14 and 21-26 are pending upon entry of this amendment.

The specification has been amended to delete the embedded hyperlink at page 6, lines 22-23.

The specification has been amended at page 8 to include sequence identifiers for the recited sequences.

No new matter has been added by the above amendments to the specification.

II. OBJECTION TO THE SPECIFICATION

The specification was objected to for containing an embedded hyperlink at page 6, lines 22-23. See page 2 of the Office Action.

The present amendment overcomes this rejection by deleting the hyperlink from the description. Kindly note that the Applicants are not attempting to incorporate by reference the material noted in the hyperlinked websites noted at page 6, lines 22-23. Instead, the specification is merely listing the websites as evidence that the material is known.

Nonetheless, for the sole purpose of expediting prosecution and not to acquiesce to the rejection, the present amendment overcomes this objection by deleting the hyperlink from the description.

III. NEW MATTER REJECTION

The Office objected to the amendment filed October 7, 2004 on the basis it introduces Figure 10, which is new matter. See page 3 of the Office Action.

Applicants respectfully traverse this rejection.

Applicants respectfully submit that Fig. 10 is not prohibited new matter. As discussed in the telephone conference with the Examiner Figure 10 better clarifies that which was disclosed and/or makes explicit that which was inherent in the original disclosure. Support for Figure 10 can be found in Figure 1 that depicts materials with conceptual names. Figure 10 depicts these same materials, but uses concrete names. The materials depicted in Figure 10 are disclosed in

the Examples of the specification. In this regard, new Fig. 10 is a schematic diagram depicting a method for analyzing an organelle-localized protein of the present invention as exemplified and disclosed in the specification. Specifically, new Fig. 10 depicts the expression of the MTS-EGFPn-DnaEn fusion peptide in mitochondria as disclosed in the specification. The structural or operational elements in Fig. 10 were disclosed or implicit in the in the original disclosure. Further support for the fusion protein composed of the N-terminal half peptide of EGFPn and the N-terminal half peptide of DnaEn bound with a mitochondrial targeting signal peptide (MTS) can be found in the specification, for example, at page 8, line 28 to page 9, line 1 (Fig. 6) and at page 15, lines 5-10. Support for the expression of the fusion protein in mitochondria can be found in the specification, for example, at page 18, lines 8-9, wherein a stable cell line expressing the protein in mitochondria (BNL1MEmito) is disclosed. See also Fig. 6. Fig. 7 provides evidence of BNL1MEmito cells harboring the reconstructed EGFP protein. See also, page 9, lines 7-15. Support for the carboxyl-terminal half of EGFP and DnaEc can be found in the specification, for example, at page 15, lines 13-16.

In view of the above, Fig. 10 is not prohibited new matter, because it merely depicts the structural or operational elements disclosed or implicit in the in the original disclosure. For this reason, the rejection should be withdrawn.

IV. SEQUENCE COMPLIANCE

On page 3 of the Action, the specification was objected to for failing to comply with the Sequence Rules.

The specification is amended to comply with 37 C.F.R. § 1.821(c) and (e). Specifically, the specification has been amended at page 8 to include sequence identifiers for the recited sequences as required by the Office.

Also, enclosed herewith is a revised substitute Sequence Listing in both paper and computer readable form as required by 37 C.F.R. § 1.821(c) and (e). Amendments directing its entry into the specification have been incorporated herein. The content of the paper and computer readable copies are the same and no new matter has been added. The substitute

Sequence Listing has been run through the PTO Checker software (version 4.4.0) and no errors were found.

In view of the foregoing, it is believed that the application is in compliance with the sequence rules under 37 C.F.R. § 1.821-1.825.

V. CLAIM OBJECTIONS

Claims 1, 9, 13 and 16 were objected to for the informalities noted at the bottom of page 4 and at the top of page 5 of the Office Action.

The present amendment overcomes this objection by the amending the claims along the lines suggested in the Action to address the noted minor informalities.

VI. INDEFINITENESS REJECTIONS

Claims 1-4, 10, 16, 18 and 20 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite for the reasons set forth on pages 5 and 6 of the Action.

The present amendment overcomes these rejections for reasons which are self-evident.

VII. ENABLEMENT REJECTION

On pages 6-9 of the Action, claims 1-4, 8, 19 and 20 were rejected under 35 U.S.C. § 112, first paragraph, on the basis that the specification is only enabling for methods wherein a fusion peptide (b) (e.g. as recited in claim 1) comprises a test protein, and vectors encoding such fusion peptides, and not for such methods or vectors wherein the test protein is merely bound to the fusion peptide (b), or bound to the vector encoding fusion peptide (b).

The present amendment overcomes this rejection by amending the claims along the lines indicated as enabled to indicate that the test protein is fused in peptide (b). Therefore, the rejection is untenable and should be withdrawn.

VIII. CLAIM OBJECTION

On page 10 of the Action, it was indicated that should claims 5, 6, 7 or 8 be found

allowable, claims 9, 15, 17 or 19, respectively, will be objected to under 37 CFR § 1.75 as being a substantial duplicate thereof.

The present amendment addresses this issue by amending the claims such that they are not substantial duplicates.

IX. DOUBLE PATENTING REJECTIONS & PRIOR ART REJECTIONS

On page 11 of the Action, claims 6, 8, 17 and 19 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 6 and 7 of Umezawa et al.US 7,166,447.

On pages 11-15 of the Action, claims 1-5, 7, 9-16, 18 and 20 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2 and 4-8 of Umezawa et al.US 7,166,447 in view of Ozawa et al. (Anal. Chem., Vol. 73, pp. 2516-2521, 2001), Hamilton et al. (US 6,780,599, effective filing date May 12, 2000), Simpson et al. (EMBO reports, 2000), and Martoglio et al. (TICB, 1998).

On page 16, claims 6, 8, 17 and 19 are rejected under 35 U.S.C. § 102(b) as anticipated by Umezawa et al. (WO 02/08766).

On pages 17-21, claims 1-5, 7, 9-16, 18 and 20 are rejected under 35 U.S.C. § 103(a) as obvious over Umezawa et al. (WO 02/08766) in view of Ozawa et al. (Anal. Chem., Vol. 73, pp. 2516-2521, 2001), Hamilton et al. (US 6,780,599, effective filing date May 12, 2000), Simpson et al. (EMBO reports, 2000), and Martoglio et al. (TICB, 1998).

To start, for the sole purpose of expediting prosecution and not to acquiesce to these rejections, rejected claims 6, 8, 17 and 19 have been canceled without prejudice or disclaimer, thereby obviating these rejections as applied to these claims.

Applicants respectfully traverse the remaining rejections as applied to the amended and new claims. It is respectfully submitted that the remaining amended claims are novel and non-obvious over the other cited references.

The probe for protein-protein interaction disclosed in Umezawa et al. and Ozawa et al. utilize protein splicing upon direct interaction of target protein A with target protein B, which are

fused in probe (a) and probe(b), respectively. In other words, through direct interaction of protein A and protein B, probe (a) and probe (b) also directly interact for the protein splicing.

On the other hand, the organelle-targeting signal (OTS) peptide of fusion peptide (a) and the test protein of fusion peptide (b) of the present invention **do not directly** interact. The protein splicing occurs only when the OTS peptide and the test protein are individually co-localized in the same organelle. That is, the interaction between fusion peptide (a) and fusion peptide (b) for protein splicing occurs through an **indirect manner**, since the organelle lies between them. The cited references fail to disclose or suggest this element of the present.

For this reason, Applicants respectfully submit that the present invention is novel and non-obvious over the cited references, because protein splicing for signal emission occurs even if the interaction between fusion peptide (a) and fusion peptide (b) is **indirect**. The cited references fail to disclose or suggest this inventive concept of the present invention.

Therefore, it is respectfully submitted that the remaining double patenting and prior art rejections are untenable and should be withdrawn.

X. CONCLUSION

In view of the foregoing amendments and remarks, that the present application is in condition for allowance and notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned at the telephone number below.

Respectfully submitted,

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